

What is Claimed is:

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1. A system for inspecting a fiber comprising:  
a camera system for imaging an entire surface of the fiber; and  
an automated motion system which translates the fiber relative to the camera from a start point to an end point.
  2. The system of claim 1, further comprising an autofocus unit for automatically adjusting a focus of the camera system each time the fiber is translated.
  3. The system of claim 1, wherein the camera system comprises two cameras, each camera imaging different semicircle of the fiber.
  4. The system of claim 1, wherein said camera system includes a top camera which captures a top semicircle of the fiber, a bottom camera which captures a bottom semicircle of the fiber, and a reflector which redirects an image of one of the top and bottom semicircle to a corresponding top and bottom camera.
  5. The system of claim 1, wherein said automated motion system comprises a base frame holding the fiber and a linear motor attached to the base frame.
  6. The system of claim 5, further comprising a base plate, the base frame being mounted on one side of the base plate, the linear motor being mounted on an opposite side of the base plate, and the base frame extending through the base plate.
  7. The system of claim 6, further comprising a calibrated slot in the base plate through which the base frame extends, the calibrated slot establishing a start and finish

position for the translation of the fiber.

8. The system of claim 5, wherein the base frame includes alignment pins for aligning the fiber with the base plate.

9. The system of claim 1, further comprising an encoder which checks operation of the automated motion system.

10. The system of claim 1, wherein the automated motion system comprises a magnetic coil linear motor.

11. A method for inspecting a fiber having a recoat thereon comprising:  
imaging the fiber;  
evaluating images of the fiber for imperfections; and  
determining acceptability of the recoat of the fiber by comparing any imperfections therein to an objective criteria.

12. The method of claim 11, wherein said imaging includes automatically translating the fiber relative to a camera system.

13. The method of claim 12, wherein said automatically translating includes aligning a fiber with a frame attached to a motor.

14. The method of claim 12, wherein said automatically translating includes positioning the fiber at a homing position.

15. The method of claim 12, wherein said automatically translating includes comparing translations to translation of an encoder slide.

16. The method of claim 11, wherein said determining acceptability includes calculating a stability index based on a thickness of the recoat on the fiber, a uniformity of the recoat on the fiber, a depth of any surface cracks on the recoat, and a depth of any bubbles in the recoat.

17. The method of claim 11, wherein said imaging of the fiber includes imaging a top surface and a bottom surface of the fiber simultaneously.

18. The method of claim 11, further comprising, when the recoat is determined to be unacceptable, directing the fiber back to be recoated again.